WHAT IS CLAIMED IS:

1   1.   A system for routing a data packet on networks,

2   comprising:

3   a control element for managing routing tables;

4   forwarding elements, each receiving one of the routing

5   ·tables from the control element, and forwarding the data packet

6   according to the received routing table and a destination

7   address in the data packet; and

8   a private network that connects the control element and the

9   forwarding elements.

1   2.   The system of claim 1, wherein the private network

2   comprises a local area network.

1   3.   The system of claim 1, wherein the forwarding elements

2   are distributed across the private network.

1   4.   The system of claim 1, wherein the data packet

2   includes a time-to-live counter that is decremented by one of

3   the forwarding elements that receives the data packet directly

4   from other routers.

5. The system of claim 1, wherein, for each of the networks, the routing table received by any of the forwarding elements includes an interface port of the forwarding element through which the remote network is accessible by the forwarding element.

6. The system of claim 1, wherein, for each of the networks, the routing table received by any of the forwarding elements includes information about a gateway to which the network is directly connected.

7. A method of routing a data packet on networks, comprising:

receiving, at each of a plurality of forwarding elements, a routing table from a control element via a private network;

receiving the data packet, at one of the forwarding elements, directly from one of the networks; and

forwarding the data packet according to the routing table and a destination address in the data packet.

8. The method of claim 7, further comprising decrementing a time-to-live counter, at the forwarding element that receives the data packet directly from the one of the networks.

1   9.   The method of claim 7, further comprising, at the

2   control element, modifying an interface port for each of the

3   networks in the routing table before sending the routing table

4   to one of the forwarding elements.

1   10.   The method of claim 9, wherein the modifying includes

2   indicating in the interface port a port of the forwarding

3   element through which the network is accessible by the

4   forwarding element.

1   11.   The method of claim 7, wherein, at the control

2   element, changing a gateway field for each of the networks in

3   the routing table before sending the routing table to one of the

4   forwarding elements.

1   12.   The method of claim 11, wherein the changing includes

2   indicating in the gateway field one of the forwarding elements

3   to which the network is directly connected.

1   13.   An article comprising computer-readable medium that

2   stores instructions for causing a machine to:

3   receive, at each of a plurality of forwarding elements, a

4   routing table from a control element via a private network;

5   receive the data packet, at one of the forwarding elements,

6   directly from one of the networks; and

7   forward the data packet according to the routing table and

8   a destination address in the data packet.

1   14.   The article of claim 13, further comprising

2   instructions for causing a computer to decrement a time-to-live

3   counter, at the forwarding element that receives the data packet

4   directly from the one of the networks.

1   15.   The article of claim 13, further comprising

2   instructions for causing a computer to, at the control element,

3   modify an interface port for each of the remote networks in the

4   routing table before sending the routing table to one of the

5   forwarding elements.

1   16.   The article of claim 15, wherein the modification

2   includes indicating in the interface port a port of the

3   forwarding element through which the network is accessible by

4   the forwarding element.

1   17. The article of claim 13, further comprising

2   instructions for causing a computer to, at the control element,

3   change a gateway field for each of the networks in the routing

4   table before sending the routing table to one of the forwarding

5   elements.

1   18. The article of claim 17, wherein the change includes

2   indicating in the gateway field one of the forwarding elements

3   to which the network is directly connected.